

【欧州】【自動車】

Environmental friendly vehicles: The European Environment Agency's 2017 data on CO2 emissions from new passenger cars shows insufficient progress towards the 2021 target

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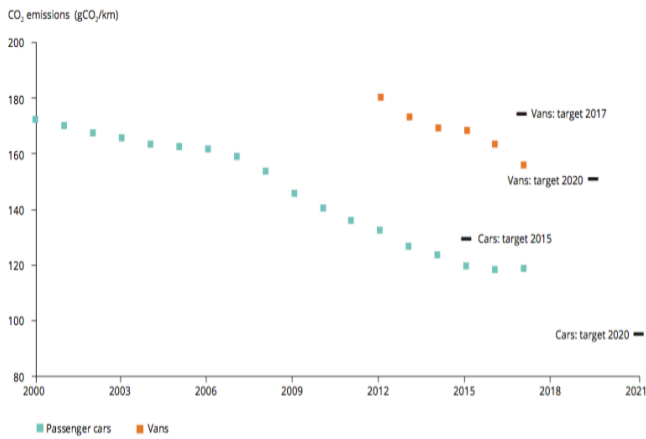
【概要 : Summary】

The EU envisages an overall target of an 80% reduction of GHG emissions by 2050, based on 1990 level. Furthermore, also in order to reach the climate target and commitments under the Paris Agreement, the EU needs to take further action to significantly reduce its GHG emissions in all sectors. In particular, the road transport sector's CO2 emissions need to be reduced. The transport sector is responsible for almost 25% of the EU's entire GHG emissions. Out of this, road transport is by far the biggest emitter of GHG, accounting for about 72% of the transport sector's total GHG emissions.

In accordance with the EU regulation (EC) No. 443/2009 for passenger cars and No. 510/2011 for vans, the European Environment Agency (EEA) collects annually the parameters of new vehicles, including CO2 emissions. The EEA's 2017 CO2 emission data shows a new increase of the petrol car share compared to diesel cars, mainly as a result from the Diesel scandal. This trend is concerning as the consumers' decision to switch from diesel to petrol cars has the potential to ultimately undermine the efforts to cut CO2 emissions from road transport. This is due to the fact that new diesel cars emitted on average less CO2 than the average new petrol cars. Already in 2017, this tendency towards petrol cars is visible and this CO2 emission increase is concerning since the average CO2 emissions will still need to further decrease

significantly in order to reach the respective future target of 95g CO2/km for passenger cars by 2021. Furthermore, these 2017 results could also represent only the beginning of a further worsening trend, due to the changes in the applied European vehicle test rules. In the past years, passenger cars and van manufacturers met their CO2 specific emission targets, as they were still measured under the requirements of the New European Driving Cycle (NEDC). However, since September 2018, the Worldwide harmonized Light vehicles Test Procedure' (WLTP) is fully applied also to all new passenger cars and the NEDC test procedure-based CO2 emission measuring is phased out. The WLTP has been introduced to decrease the divergence between laboratory test emission measurements and real world emissions. It can be expected that the full application of the WLTP and real world emission tests will show an even more serious level of CO2 emissions for passenger cars but also for vans. As a result, the automobile manufacturers will have to significantly improve their efforts in order to meet future CO2 emission reduction targets.

Development of average CO2 emissions and targets for new passenger cars and vans in the EU-28, in the years 2000 to 2017



source:

<https://www.eea.europa.eu/publications/monitoring-co2-emissions-from-new-2>

【記事 : Article】

1. The EEA’s annual CO2 emissions data collection for new passenger cars and vans

Regulation (EC) 443/2009 sets the CO₂ reduction framework for passenger cars with a target of 130 grams of CO₂ per kilometre (g/km) by 2015 and 95g CO₂/km by 2021. The Regulation gives manufacturers also additional incentives to produce vehicles with extremely low emissions (below 50g/km) and also requires EU Member States to record information on the GHG emissions for each new passenger car registered in its territory. For new light commercial vehicles or vans, Regulation (EU) No 510/2011 sets the average CO₂ emissions target at 175g CO₂/km by 2017 and at 147g CO₂/km for 2020. In accordance with the EU regulation (EC) No. 443/2009 for passenger cars and regulation (EC) No. 510/2011 for vans, the European Environment Agency (EEA) annually collects the parameters of new vehicles sold in the EU, including CO₂ emissions and vehicle mass. In 2019, the EEA will also start collecting data on new heavy-duty vehicles in accordance with Regulation (EU) No 2018/956.

The EEA collects data from all EU Member States in order to evaluate the annual performance of the new vehicles and their progress toward meeting the CO₂ emissions targets. The EEA uses the data to evaluate the annual performance of the new vehicle fleet and its progress toward meeting the EU’s CO₂ emissions targets. Since 2010, the EEA has collected data on

passenger cars registered in all EU Member States and since 2013, the EEA has been also collecting the data about vans.

On 17 January 2018, the EEA published an updated summary of CO₂ emission levels of new passenger cars and vans in the EU in 2016. Based on the updated EEA report, all car and van manufacturers met their CO₂ specific emission targets in 2016. In 2016, conventional diesel and petrol cars accounted for 96,5% of new sales, but for the first time since 2009, the share of diesel vehicles dropped below half of all new passenger car registrations. Instead, the proportion of plug-in hybrid and battery electric vehicles remained largely the same in 2016, with around 1%. Regarding vans, the vast majority of vehicles are fuelled with diesel (96%). The 2016 findings showed that new passenger cars sold in the EU in 2016 had CO₂ average emissions of 118.1g CO₂/km, which was 28% lower than in 2004. It was also 1.2% lower than in 2015. However, in 2016, although the fuel efficiency of new cars sold in the EU continued to improve, the reduction of 1.5 grams of CO₂/km compared to 2015 was the slowest annual improvement recorded over the last decade. The mass of a vehicle is a key factor affecting emissions, as heavier vehicles tend to emit more CO₂/km. In fact, the average mass of new cars sold in 2016 in the EU increased to 1,388 kg, compared to 1,381 kg in 2015. The average CO₂ emissions from vans sold in 2016 were 163.7g CO₂/km, well below the 2017 target of 175g CO₂/km and a reduction of 9.2% since monitoring first started. Data on manufacturer’s individual performances showed that all car and van manufacturers met their CO₂ specific emission targets in 2016.

2. The 2017 new passenger cars’ CO2 emissions increase

The EEA’s latest report “Monitoring CO₂ emissions from new passenger cars and new vans in 2017” (EEA Report No 15/2018), published on 4 April 2019, provides an overview of the development in CO₂ emissions of passenger cars and vans towards their CO₂ emission

targets in 2021 and 2020, respectively. Based on data reported by the EU Member States to the EEA and verified by manufacturers, the report provides a summary of CO₂ emission levels of new passenger cars and vans in the EU in 2017.

Based on current European vehicle test rules, all car and van manufacturers met their CO₂ specific emission targets, mostly still measured under the requirements of the NEDC in 2017. The WLTP has been introduced since September 2017 for new car types and since September 2018 it has replaced the NEDC also for new passenger cars and vans. Starting from 2021, the WLTP will be fully applied for the CO₂ emission measuring. Therefore, for 2017, there was still a very limited amount of records of CO₂ emissions measured using WLTP.

In 2017, the number of newly registered petrol passenger cars overtook the diesel cars. Newly registered petrol passenger cars accounted for 53% of new registrations. The two conventional technologies together accounted for 97.1% of new registrations, while the share of plug-in hybrid and battery-powered electric cars rose from 1% to 1.5% in 2017. It was also the first year that hydrogen cars made a noticeable appearance together with other alternatives such as liquefied petroleum gas and compressed natural gas cars accounting for the remaining registrations.

The final data shows that average CO₂ emissions of a new passenger car sold in the EU rose by 0.4 g CO₂/km in 2017 to 118.5 g CO₂/km, up from 118.1 g CO₂/km in 2016. Although this level is still below the current target level of 130 g CO₂/km for new passenger cars, it is well above the 2021 target of 95g CO₂/km. This latest result confirms the concerning slow-down in the progress towards achieving the 2021 CO₂ emission reduction target. Since 2010, when monitoring started under the current EU legislation, the CO₂ emissions from new cars decreased by 15.5% and almost 22g CO₂/km. However, the low decrease between 2015 and 2016, when emissions decreased by only 1.5g CO₂/km and the following increase of 0.4g CO₂/km in 2017 to 118.5g CO₂/km is a first clear and concerning signal that the automobile manufacturers need to take action

in order to achieve better improvements in manufacturing more efficient cars.

Regarding the development of the average CO₂ emissions of new light commercial vehicles (vans), the emissions continued to decrease by 7.5g CO₂/km in 2017 compared to 2016. The average new van registered in 2017 emitted 156.1g CO₂/km. This reduction brings the EU average emissions of vans to 11% below the 2017 target of 175g CO₂/km and 6% above the 2020 target. Furthermore, amongst the largest automobile manufacturers, Toyota Motor Europe had the lowest average CO₂ emissions of 103g CO₂/km for new passenger cars registered in 2017, followed by Automobiles Peugeot 105g CO₂/km and Automobiles Citroen 106g CO₂/km. As in every year since vans monitoring commenced, Automobile Dacia SA was the vans manufacturer with the lowest emissions with 118g CO₂/km in 2017.

However, three automobile manufacturers (Automobili Lamborghini, Mazda Motor Corporation and Société des Automobiles Alpine), representing together 1.4% of all new car sales in 2017, exceeded their specific emission targets for 2017. Other automobile manufacturers, if considered individually, would also have exceeded their specific emission target, but they were able to meet their obligations as members of pools or thanks to derogations.

3. The way forward to achieving the 2020/21 CO₂ emission reduction targets

Regarding the problem to achieving the 2020/21 emission targets, the increase of CO₂ emissions for new passenger cars is concerning while the results for vans is continuously positive. However, regarding passenger cars, for the first year since 2009, petrol cars constituted the majority of new registrations in 2017 (almost 53%), while the proportion of electric vehicles (plug-in hybrid and battery electric cars) only increased from 1.0% in 2016 to 1.5% in 2017. There exist several reasons for the change in preferences towards petrol cars. Diesel car emissions are a key driver of smog in many cities across the EU and several municipalities are considering to ban or have already

banned diesel cars from their city centres. These measures against diesel cars together with the Volkswagen diesel scandal's impact have influenced the consumers' decision in favour of buying petrol cars rather than diesel cars. However, the consumers did not go a step further and chose zero- or low emission vehicles. In particular regarding the introduction of electric vehicles, the actual number of registered EV passenger cars is still low due to the limited number of available EV models, the lack of a nation- and EU-wide recharging infrastructure network, the limited range of EVs and the comparatively high purchase prices for new EVs, compared to a new petrol passenger car. The problem with the new tendency towards an increase of the petrol cars' share rather than towards low- or zero emission passenger cars is that this development is highly counterproductive for the targeted reduction of CO₂ emissions from road transport.

Considering the results of CO₂ emissions for passenger cars in 2017, with the 2021 deadline fast approaching, half of large automobile manufacturers will urgently need "to take drastic action over the next two years of production."

The development for vans is more promising as since 2013, the average emissions of new vans have been below the 2017 target of 175g CO₂/km. The new vans registered in the EU in 2017 had average emissions of 11% below the 2017 target of 175g CO₂/km and only 6% above the 2020 target. Also regarding the manufacturers' specific emission targets, all van manufacturers respected their specific emission targets in 2017.

4. Conclusion

The 2017 CO₂ emission data for new passenger cars and vans in the EU shows an increase of the petrol passenger cars' share compared to diesel cars, mainly as a result from the Diesel scandal. However, this consumers' decision to switch from diesel to petrol cars rather than to low- or zero emission passenger cars could ultimately undermine the efforts to cut CO₂ emissions from road transport. This is due to the fact

that while new diesel cars emitted on average 117.9g CO₂/km, the average new petrol cars emitted 3.7g CO₂/km more CO₂. Already in 2017, this tendency towards petrol cars is visible and it results also in an increase of CO₂ emissions. This CO₂ emission increase is concerning when considering that the average CO₂ emissions passenger cars will still need to decrease significantly towards the 2021 target of 95g CO₂/km. The automobile manufactures will have to take more efforts to further significantly reduce the CO₂ emissions of their passenger cars, in particular petrol cars, sold in the EU and to increase their efforts to supply the market with competitive low- and zero emission passenger car models. The 2017 results of the EEA data show that although the results for CO₂ emission of vans have been positive, the automobile manufacturers will have to take further efforts to meet the respective future target of 95g CO₂/km for passenger cars by 2021. Furthermore, the e-mobility in the EU has to finally be realised with a higher share of zero or low-emission full electric or plug-in passenger cars. The EEA's next annual CO₂ emission results for 2018 could even show more concerning trends and an increase of CO₂ emissions, as the WLTP test will be applied for all new passenger cars and vans sold in the EU after September 2018. The WLTP has been introduced since September 2017 to decrease the divergence between laboratory test and real world emissions and is gradually replacing the NEDC. It can be expected that when the new WLTP test requirements will be fully applied, the automobile manufacturers will have to intensify their efforts significantly to further reduce their fleets' CO₂ emissions in order to meet the 2021 CO₂ emission reduction targets for passenger cars.

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